Abt Associates Inc.

QUALITY MEASURES FOR NATIONAL PUBLIC REPORTING

TECHNICAL DETAILS MANUAL

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Chapter 1
Introduction

This manual provides technical details related to the output files produced for the Centers for Medicare and Medicaid Services' (CMS) Nursing Home Quality Initiative (NHQI) project. The purpose of this Technical Details Manual is to describe the calculation methods and processing steps applied to MDS assessment data to produce facility-level Quality Measures (QMs).

This document is divided into the following chapters:

- **Chapter 1.** This introductory chapter.
- **Chapter 2.** Outlines the processing steps that were involved in producing the Quality Measure calculations and output files.
- **Chapter 3.** Describes the methods used to calculate expected QM scores.
- **Chapter 4.** Describes the methods used to calculate adjusted QM scores.
- **Chapter 5.** Data dictionary for the Quality Measure output files.

The QMs in the NHQI project are based on resident level outcomes. The detailed logic for defining the resident level outcome for each QM is presented in Chapters 2 and 3 of the National QM "User's Manual" (September, 2002). This logic is listed under the "Numerator" entry for each QM. The prevalence of the outcome across all residents in a facility is the ***observed score*** for the facility.

The QMs employ a variety of approaches for risk adjusting QMs. One approach involves exclusion of residents where the outcomes are not under facility control (e.g., outcome is evidenced on admission to the facility) or the outcome may be unavoidable (e.g., the resident has end-stage disease or is comatose). A second approach is adjustment based on ***resident-level covariates*** that have been found to increase risk for an outcome. A third approach is adjustment based on the ***Facility Admission Profile*** (FAP) corresponding to an outcome. The FAP for a QM is the proportion of residents who enter the facility already evidencing the outcome.

The detailed logic for defining exclusions, resident-level covariates and FAPs are present in Chapters 2 and 3 of the National QM "User's Manual" (September, 2002). Risk adjustment based on resident-level covariates and the FAP involves using a logistic regression model to calculate an ***expected score*** for each resident (the probability that the resident will evidence the outcome based on covariates and the FAP). Chapter 3 of this Technical Manual presents the details for calculating expected scores for residents. The final ***adjusted score*** is based on a calculation which compares the facility average expected score and the facility observed score. The details for calculating facility-adjusted scores are presented in Chapter 4 of this manual.

Chapter 2
Steps Used In National QM Calculation

This chapter outlines the processing steps used to calculate QMs for the NHQI with the 2nd Quarter of 2002 (2002/Q2) as the target period. The processing steps were as follows:

1. **Obtained all MDS records from CMS for 1998, 1999, 2000, 2001, and 2002 through Quarter 2 (2002Q2).**
2. **Selected QM calculation samples.**
   - **2.1. Selected 5 Chronic Care (CC) QM calculation samples for 5 target quarters: 2000Q2, 2000Q3, 2000Q4, 2001Q1, and 2002Q2. For the first four quarters, a simple 10% random sample of facilities was selected. All MDS assessment data from this set of 10% of the facilities was used to construct the calculation samples for these quarters. The data from the first four quarterly samples was used to build logistic regression models for risk adjustment. The fifth quarter sample (2002Q2) incorporated data from all facilities and was used as the target period for final QM reporting. For each quarter:**
     - 2.1.1. Selection was based on the specifications on pages 4-1 through 4-3 of the National QM "User's Manual" (September, 2002).
     - 2.1.2. Selection was by resident.
     - 2.1.3. Selection was for the entire sample.
     - 2.1.4. Each resident in a sample had the following CC records selected:
       - 2.1.4.1. A target assessment (most recent) in the target quarter (2002Q2).
       - 2.1.4.2. A prior assessment preceding the target assessment if available.
       - 2.1.4.3. A most recent full assessment if available.
   - **2.2. Selected 5 Post Acute Care (PAC) QM calculation samples for 5 target quarters: 2000Q2, 2000Q3, 2000Q4, 2001Q1, and 2002Q2. Note that PAC QM record selection for a target quarter actually includes assessments from the target quarter and the preceding quarter (a six-month period). For the first four quarters, a simple 10% random sample of facilities was selected. All MDS assessment data from this set of 10% of the facilities was used to construct the calculation samples for these quarters. The data from the first four quarters was used to build logistic regression models for risk adjustment. The fifth sample (2002Q2) incorporated data from all facilities and was used as the target period for final QM reporting. For each quarter:**
     - 2.2.1. Selection was based on the specifications on pages 4-5 and 4-6 of the National QM "User's Manual" (September, 2002).
     - 2.2.2. Selection was by resident.
     - 2.2.3. Selection was for the entire sample.
     - 2.2.4. Each resident in a sample had the following PAC records selected:
       - 2.2.4.1. A 14-day SNF PPS assessment (most recent) in the target period (2002Q1 and 2002Q2).
       - 2.2.4.2. A 5-day SNF PPS assessment from the same stay if available.

2.2.4.3. A recent admission assessment if available.

3. Created a resident-level QM calculation file for each of the 5 target quarters. The resident-level QM calculation file for a target quarter had 1 record for every resident in either the CC QM calculation sample or the PAC QM calculation sample for that quarter. Each record contained selected variables taken from the 6 assessments which could potentially be selected for each resident:

3.1. A CC target assessment (most recent) in the target quarter.
3.2. A CC prior assessment preceding the target assessment if available.
3.3. A CC most recent full assessment if available.
3.4. A PAC 14-day SNF PPS assessment (most recent) in the target quarter or preceding quarter.
3.5. A PAC 5-day SNF PPS assessment from the same stay if available.
3.6. A recent admission assessment if available.

4. Calculated resident-level QM scores and covariate scores for each resident in each of the 5 target quarters and stored the resulting values in the resident-level QM calculation files for each of the 5 target quarters.

4.1. For each CC and PAC QM separately.

4.1.1. **Resident-level QM calculation.** For each resident for a target quarter, determined if the resident should be excluded from QM calculation. The exclusion rules for QM calculation are given for each CC QM in Chapter 2 of the National QM "User's Manual" (September, 2002) and for each PAC QM in Chapter 3 of that manual.

4.1.1.1. If the resident was excluded, then stored a missing value for that QM in the resident-level QM calculation record appropriate to that resident for a target quarter.

4.1.1.2. If the resident was not excluded, determine if the resident triggers the QM (is to be included in the QM numerator). The triggering (numerator) rules for QM calculation are given for each CC QM in Chapter 2 of the National QM "User's Manual" (September, 2002) and for each PAC QM in Chapter 3 of that manual.

4.1.1.2.1. If the resident triggered the QM, then stored a value of 1 for that QM in the resident-level QM calculation record appropriate to that resident for a target quarter.

4.1.1.2.2. If the resident did not trigger the QM, then stored a value of 0 for that QM in the resident-level QM calculation record appropriate to that resident for a target quarter.

4.1.2. **Resident-level covariate calculation.** For each covariate associated with the QM.

4.1.2.1. For each resident for a target quarter, determined if the resident should be excluded from covariate calculation. The exclusion rules for covariate are given for each CC QM in Chapter 2 of the National QM "User's Manual" (September, 2002) and for each PAC QM in Chapter 3 of that manual.

4.1.2.1.1. If the resident was excluded, then stored a missing value for that covariate in the resident-level QM calculation record appropriate to that resident for a target quarter.

4.1.2.1.1.1. If the resident was not excluded, determine if the resident triggers the covariate (value 1). The triggering rules for covariate calculation are given for each CC QM in Chapter 2 of the National QM "User's Manual" (September, 2002) and for each PAC QM in Chapter 3 of that manual.

4.1.2.1.1.1.1. If the resident triggered the covariate, then stored a value of 1 for that covariate in the resident-level QM calculation record appropriate to that resident for a target quarter.

4.1.2.1.1.1.2. If the resident did not trigger the covariate, then stored a value of 0 for that covariate in the resident-level QM calculation record appropriate to that resident for a target quarter.

5. At this point, the resident-level QM calculation file for each of the 5 target quarters had a score for each QM and for each covariate associated with a QM.

6. Selected Facility Admission Profile (FAP) calculation samples.

6.1. Selected 5 Chronic Care (CC) FAP calculation samples for 5 target quarters: 2000Q2, 2000Q3, 2000Q4, 2001Q1, and 2002Q2. Note that the CC FAP calculation sample for a target quarter includes assessments from the year ending with that quarter. For the first four calculation quarters, a simple 10% random sample of facilities was selected. All MDS assessment data from this set of 10% of the facilities was used to construct the calculation samples for these quarters. The data from the first four quarterly samples was used to build logistic regression models for risk adjustment. The fifth quarter sample (2002Q2) incorporated data from all facilities and was used as the target period for final QM reporting. For each quarter:

6.1.1. Selection was based on the specifications on page 4-4 of the National QM "User's Manual" (September, 2002).

6.1.2. Selection was by resident.

6.1.3. Selection was for the entire sample.

6.1.4. Each resident in a sample had the following CC record selected:

6.1.4.1. The most recent non-PPS admission assessment in the year ending with the target quarter.

6.2. Selected 5 Post Acute Care (PAC) FAP calculation samples for 5 target quarters: 2000Q2, 2000Q3, 2000Q4, 2001Q1, and 2002Q2. Note that the PAC FAP calculation sample for a target quarter includes assessments from the year ending with that quarter. For the first four calculation quarters, a simple 10% random sample of facilities was selected. All MDS assessment data from this set of 10% of the facilities was used to construct the calculation samples for these quarters. The data from the first four quarterly samples was used to build logistic regression models for risk

adjustment. The fifth quarter sample (2002Q2) incorporated data from all facilities and was used as the target period for final QM reporting. For each quarter:

6.2.1. Selection was based on the specifications on page 4-7 of the National QM "User's Manual" (September, 2002).
6.2.2. Selection was by resident.
6.2.3. Selection was for the entire sample.
6.2.4. Each resident in a sample had the following PAC record selected:
6.2.4.1. The most recent PPS 5-day assessment in the year ending with the target quarter.

7. Created a resident-level FAP calculation file for each of the 5 target quarters. The resident-level FAP calculation file for a target quarter has 1 record for every resident in that FAP sample and contains variables from the non-PPS admission assessment (CC) and/or PPS 5-day assessment (PAC) that was selected for that resident.

8. Calculated resident-level FAP scores for each resident in each of the 5 target quarters and stored the resulting values in the resident-level FAP calculation files for each of the 5 target quarters.

8.1. For each CC and PAC FAP separately.
8.1.1. **Resident-level FAP calculation.** For each resident in a target quarter, determined if the resident should be excluded from FAP calculation. The exclusion rules for FAP calculation are given for each CC QM in Chapter 2 of the National QM "User's Manual" (September, 2002) and for each PAC QM in Chapter 3 of that manual.
8.1.1.1. If the resident was excluded, then stored a missing value for that FAP in the resident-level FAP calculation record appropriate to that resident for a target quarter.
8.1.1.2. If the resident was not excluded, calculated the resident-level FAP score according to the rules for FAP calculation given for each CC QM in Chapter 2 of the National QM "User's Manual" (September, 2002) and for each PAC QM in Chapter 3 of that manual and stored the calculated value for that FAP in the resident-level FAP calculation record appropriate to that resident for a target quarter.
8.1.1.2.1. If the FAP was a prevalence measure with numerator and denominator defined, then the FAP score was a 1 if the numerator conditions were satisfied and a 0 otherwise.
8.1.1.2.2. If the FAP was based on a scale, then the FAP score was the computed scale score.

9. Created a facility-level output file for each facility for each of the 5 target quarters. The facility-level output file for a target quarter had 1 record for each facility in the universe of facilities.

10. Calculated facility-level FAP scores for each facility for each of the 5 target quarters and stored the resulting values in the facility-level output files for each of the 5 target quarters.

10.1. For each CC and PAC FAP separately.

10.1.1. **Facility-level FAP calculation.** Computed the average FAP values for a QM for each facility for each of the 5 target quarters.

10.1.1.1. Stored the resulting averages in the facility-level output record for each facility for each of the 5 target quarters.

10.1.1.2. A facility-level FAP result for one of the target quarters was missing if there were no residents in the corresponding resident-level calculation file for the target quarter

11. At this point, the facility-level output file for each of the 5 target quarters had mean values for each FAP for each QM.

12. For each of the five target periods, replicated the facility-level FAP mean for each FAP for each CC QM and each PAC QM onto the resident-level QM calculation records for all residents within a facility.

13. At this point, the resident-level QM calculation file for each of the 5 target quarters had resident-level values for each CC and PAC QM, resident-level values for each covariate associated with a QM, and the facility-level mean FAP value for the FAP associated with each QM.

14. A pooled resident-level QM calculation file was created by combining all resident-level QM calculation records from the 4 files for the 2000Q2, 2000Q3, 2000Q4 and 2001Q1 target quarters. This pooled resident file contained assessment data for a 10% random sample of all facilities. This pooled resident file was used to build logistic regression models for QMs.

15. The SAS logistic regression procedure was then run to obtain logistic models for CC QMs and PAC QMs to predict the resident-level QM score from the facility-level FAP and/or resident-level covariates (if any) associated with a QM. The pooled data sample of 10% of all facilities from the first four target quarters (2000Q2, 2000Q3, 2000Q4, and 2001Q1) was used to build these models.

15.1. Input data file was the pooled resident-level QM calculation file (across the 4 target quarters). This file included assessment data for a 10% random sample of all facilities.

15.2. Dependent variable was the resident-level QM score.

15.3. Predictors were the facility-level FAP (if applicable) and the resident-level covariates (if any).

15.4. Output values were the logistic regression coefficients for each QM. The coefficients for each QM included a constant, a FAP coefficient (if applicable), and a coefficient for each covariate (if applicable).

16. The logistic model coefficients from the pooled resident-level QM calculation sample (sample of 10% of all facilities for the 2000Q2, 2000Q3, 2000Q4 and 2001Q1 target quarters) were then used to calculate expected QM scores for CC QMs and PAC QMs for each resident for the fifth (2002Q2) target quarter.

16.1. The formula used for this calculation and the logistic regression coefficients used are given in Chapter 3 of this manual.

16.2. For each QM, the input data for this calculation were the facility-level FAP (if applicable) and the resident-level covariate scores (if applicable) from the resident level QM calculation file, as well as the logistic coefficients from Step 15.

16.3. The expected scores for the QMs for each resident were stored in the resident-level QM calculation file for the 2002Q2 target quarter.

17. Calculated the overall mean observed QM rate for the 2002Q2 target quarter across the nation.

17.1. For each CC and PAC QM separately.

17.1.1. Overall mean observed QM rate calculation.

17.1.1.1. For each resident with non-missing data on the QM score (not excluded) in the resident-level QM calculation file for 2002Q2 (across then nation):

17.1.1.1.1. Counted the total number of these residents and retained the result as the overall QM denominator count across the nation.

17.1.1.1.2. Counted the total number of these residents triggering the QM (QM score of 1) and retained the result as the overall QM numerator count across the nation.

17.1.1.2. Divided the overall QM numerator by the overall QM denominator and retain the result as the overall observed QM rate for the nation.

18. Calculated facility-level observed QM rate and facility-level expected QM rate for each facility for the 2002Q2 target quarter and stored the resulting values in the facility-level output file for that target quarter.

18.1. For each CC and PAC QM separately.

18.1.1. **Facility-level observed QM and expected QM rate calculation.**

18.1.1.1. For each resident in the facility with non-missing data on the QM score (not excluded) and on all covariate scores (if applicable):

18.1.1.1.1. Counted the total number of these residents in the facility and stored the result in the facility-level output record as the QM denominator count for the facility.

18.1.1.1.2. Counted the total number of these residents triggering the QM (QM score of 1) and stored the result in the facility-level output record as the QM numerator count for the facility.

18.1.1.1.3. Averaged the expected QM score for all of these residents and stored in the facility-level output table as the expected QM rate for the facility.

18.1.1.2. Divided the facility-level QM numerator by the facility-level QM denominator and stored the result in the facility-level output record as the observed QM rate.

19. At this point, the facility-level output file for the 2002Q2 target quarter had the following values for each QM: numerator count, denominator count, observed QM rate, expected QM rate, and mean FAP value.

20. Calculated facility-level adjusted QM score for each facility for the 2002Q2 target quarter and stored the resulting value in the facility-level output file for that target quarter.

20.1. For each CC and PAC QM separately.

20.1.1. **Facility-level adjusted QM score calculation.**

20.1.1.1.1. The formula for this calculation is given in Chapter 4 of this manual.

20.1.1.1.2. For each QM, the input data for this calculation were the facility-level observed and expected QM rates from the facility output table, as well as the national overall observed QM rate from Step 17.

20.1.1.1.3. The adjusted QM score for each QM for each facility was stored in the facility output file for 2002Q2.

20.1.1.1.4. The adjusted QM score was missing if either the facility-level observed QM rate or the facility-level expected QM rate is missing.

21. At this point, the facility-level output file for the 2002Q2 target quarter had the following values for each QM: numerator count, denominator count, observed QM rate, expected QM rate, adjusted QM score, and mean FAP value.

Chapter 3
Calculation of the Expected QM Score

For QMs adjusted with resident-level covariates and/or the Facility Admission Profile (FAP), the resident-level expected QM score is calculated as an intermediate step to obtaining an adjusted QM score for the facility. In the 2002 Q2 QMs, five of the 10 QMs involve adjustment by resident-level covariates and/or FAP.

The resident-level expected QM score for a QM is an estimate of the risk that a resident will trigger the QM. This risk estimate is based on consideration of:

1. The facility-level admission and assessment practices of the facility, as measured by the Facility Admission Profile (FAP) for the QM,
   AND/OR
2. The resident-level covariates associated with the QM.

The facility-level FAP for a QM is the facility average of the resident-level FAP scores based on the most recent admission assessment for all residents in the last 12 months. The logic for resident-level FAP calculation is given for each Chronic Care (CC) QM in Chapter 2 of the National QM "User's Manual" (September, 2002) and for each Post Acute Care (PAC) QM in Chapter 3 of that manual.

Note that the FAP sample is based upon all admissions during a 12-month period and contains residents who may not be included in any of the individual QM samples (although there will be overlap). Furthermore, note that each facility-level FAP score is replicated for all residents associated with a facility. Thus for a particular QM, the FAP score is a constant for all residents in a given facility.

For some QMs, the expected QM score uses resident-level covariates associated with the QM. Chapters 2 (Chronic Care QMs) and 3 (Post Acute Care QMs) of the National QM "User's Manual" (September, 2002) present the resident-level covariates associated with each QM and the logic for calculating each covariate.

For each QM, a resident-level logistic regression equation for the expected score has been statistically derived from analysis of a pooled sample of all residents from a 10 percent random sample of all facilities for four target quarters: Quarter 2 of 2000 (2000Q2) through Quarter 1 of 2001 (2001Q1). These logistic regression equations were derived using the resident-level QM score as the dependent variable. The predictor variables were the facility-level FAP and any resident-level covariates associated with the QM.

The resulting logistic regression equations are of the form:

$$\frac{1}{1 + e^{-x}}$$

Where e is the base of natural logarithms and X is a linear combination of the logistic regression coefficients and the predictor variables of the form:

$$C_0 + C_{FAP}*FAP + C_1*COV_A + C_2*COV_B + \ldots$$

Where C_0 is the logistic regression constant, C_{FAP} is the logistic regression coefficient for the Facility Admission Profile (where applicable), FAP is the facility-level Facility Admission Profile score for the resident's facility (where applicable), C_1 is the logistic regression coefficient for the first covariate (where applicable), COVA is the resident-level score for the first covariate (where applicable), C_2 is the logistic regression coefficient for the second covariate (where applicable), and COV_B is the resident-level score for the second covariate (where applicable).

For each QM, such a logistic regression equation is applied to each resident and the result is the resident-level expected score for the QM.

As an example, consider the actual calculation used for the expected score for the CC "Percent of Residents with Pressure Sores with FAP Adjustment" QM (PRU01). This QM does not consider any resident covariates (only the FAP is considered) and the actual equation used was:

$$\frac{1}{1 + e^{-(-2.72659 + 2.21735*F\_CPRU1)}}$$

Where F_CPRU1 is the facility-level FAP for PRU01.

The PAC "Percent of Short-Stay Residents with Delirium with FAP Adjustment" QM (PAC_DEL0X) provides an example of a QM that considers a FAP variable and a resident-level covariate. The covariate for that QM is lack of prior residential history in a nursing home, residential care facility, or MH/MR facility. The equation used for this QM was:

$$\frac{1}{1 + e^{-(-3.65433 + 7.26925*F\_DEL0X - 0.22714*ResHist)}}$$

Where F_DEL0X is the facility-level FAP for DEL0X and ResHist is the resident-level covariate indicating lack of prior residential history.

The CC "Percent of Residents with Pain" QM (PAI0X) provides an example of a QM that considers only a resident-level covariate. The covariate for that QM is an indicator

of independence in daily decision-making on the prior assessment. The equation used for this QM was:

$$\frac{1}{1 + e^{-(-2.49156 + 0.86520*\text{IndpDec})}}$$

Where IndpDec is the resident-level covariate indicating independence in daily decision-making.

For the 5 QMs that involve a FAP and/or resident-level covariate adjustment, the relevant logistic regression coefficients for expected score calculation are presented in Table 3.1 below.

Table 3.1 Parameters for Calculating QM Expected Scores

QM	Logistic Regression Coefficients		
	Constant (Intercept)	FAP	Resident-Level Covariate
CC PAI0X	**-2.49156**		**0.86520**
CC PRU01	**-2.72659**	**2.21735**	
PAC DEL0X (with FAP)	**-3.65433**	**7.26925**	**-0.22714**
PAC DEL0X (without FAP)	**-2.92665**		**-0.25348**
PAC WAL0X	**1.63303**	**-0.42619**	

Chapter 4
Calculation of the Adjusted QM Score

The adjusted QM score is a facility-level QM adjusted for the specific risk for that QM in the facility. The risk-adjusted QM score can be thought of as estimate of the facility's QM rate if the facility had residents with average risk.

The facility-level adjusted score is calculated on the basis of the facility-level observed QM rate, the facility-level average expected QM rate, and the national average observed QM rate. Note that there is an Excel spreadsheet available that allows a user to calculate an adjusted score from the observed rate, expected rate, and national average. This spreadsheet is named:

"Adjusted Score Calculator and Examples 2.xls".

This spreadsheet also provides a number of examples to facilitate understanding and interpretation of adjusted scores.

The actual calculation of the adjusted score uses the following equation:

$$Adj = \frac{1}{1 + e^{-\left[\mathrm{Ln}\left(\frac{Obs}{(1-Obs)}\right) - \mathrm{Ln}\left(\frac{Exp}{(1-Exp)}\right) + \mathrm{Ln}\left(\frac{Nat}{(1-Nat)}\right)\right]}}$$

Where **Adj** is the facility-level adjusted QM score, **Obs** is the facility-level observed QM rate, **Exp** is the facility-level expected QM rate, **Nat** is the national observed QM rate, and **Ln** indicates a natural logarithm.

Note that the observed QM rate (**Obs**) is modified in two special cases before applying the equation:

1. When **Obs** equals 0, then **Obs** is reset as follows before using in the equation:

$$Obs = \frac{1}{(4 * QM\_den)}$$

   where QM_den is the observed QM denominator value (number of residents).

2. When **Obs** equals 1, then Obs is reset as follows before using in the equation:

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$$Obs = 1 - \frac{1}{(4 * QM\_den)}$$

where QM_den is the observed QM denominator value (number of residents).

The adjusted score equation will produce adjusted scores in the range of 0 to 1. These adjusted scores can then be converted to percentages for ease of interpretation.

These adjusted score calculations are applied to QMs that use expected scores based on the Facility Admission Profile (FAP) and/or resident-level covariates (see Chapter 3). The national average observed QM rates, required for these calculations, are given in Table 4.1 below.

Table 4.1 National Observed QM Means

QM	National Observed Mean
CC PAI0X	**0.10579**
CC PRU01	**0.08682**
PAC DEL0X (with FAP)	**0.03954**
PAC DEL0X (without FAP)	**0.03954**
PAC WAL0X	**0.30971**

Chapter 5
Data Dictionary for National QM SAS Output

This chapter presents a data dictionary for the SAS Quality Measure output table generated for the National QMs. The results in this table are for Quarter2 of 2002 (2002Q2). This table contains a record for each facility. The record for a facility contains the MDS facility ID, which consists of the state code (ST_CODE) and the internal facility ID (FAC_ITL). For each of the 10 QMs for this period, three variables are reported:

1. The numerator (i.e., the number of cases at the facility that triggered the QM), named N_qm-name.
2. The denominator (i.e., the number of cases at the facility that were considered), named D_qm-name.
3. The reported value of the QM, named Q_qm-name.

<qm-name> values used in the SAS variable names are presented in Table 5.1. For each QM, this table gives <qm-name> (the SAS name), "Label" (the label used for the QM in the definition matrices in Chapters 2 and 3 of the National QM "User's Manual" dated September, 2002), and "Description" (brief description).

Table 5.1 QM Name and Label Conventions

<qm-name>	Label	Description
CADL1	ADL01	% residents who had an unexpected loss of function in some basic daily activities (CC)
CINFX	INF0X	% residents with infections (CC)
CPAIX	PAI0X	% residents with pain (CC)
CPRU1	PRU01	% residents with pressure sores with FAP adjustment (CC)
CPRU1U	PRU01	% residents with pressure sores (CC)
CRES1	RES01	% residents in physical restraints (CC)
PDELX	PAC_DEL0X	% short-stay residents with delirium with FAP adjustment (PAC)
PDELXA	PAC_DEL0X	% short-stay residents with delirium (PAC)
PPAIX	PAC_PAI0X	% short-stay residents with pain (PAC)
PWALX	PAC_WAL0X	% short-stay residents who walk as well or better on day 14 as on day 5 of their stay with FAP adjustment (PAC)

TABLE 5.2 FACILITY QM OUTPUT TABLE (1 record per facility)			
SAS NAME	**TYPE**	**Length**	**SAS Label/ Description**
Facility Id Codes			
ST_CODE	CHAR	2	SAS Label: STATE ID CODE Description: Facility state
FAC_ITL	CHAR	10	SAS Label: SYSTEM INTERNAL FACILITY ID Description: MDS System unique facility ID code
Facility-Level Measures Repeated for Each of the 10 QMs			
D_<qm-name>	NUM	8	SAS Label: RES AFTR EXCLSNS/MSSG COV,<qm-name> Description: Complete-data QM denominator. Number of residents for QM calculation, after QM exclusions **AND** exclusion of cases with any missing covariate scores (if applicable). **Note:** Value for a CC QM is set to missing if there are no residents in the CC facility admission sample. Value for a PAC QM is set to missing if there are no residents in the PAC facility admission sample.
N_<qm-name>	NUM	8	SAS Label: RES TRGRD AFTR EXCLSNS/MSSG COV,<qm-name> Description: Complete-data QM numerator. Number of residents triggering the QM, after QM exclusions **AND** exclusion of cases with any missing covariate scores (if applicable). **Note:** Value for a CC QM is set to missing if there are no residents in the CC facility admission sample. Value for a PAC QM is set to missing if there are no residents in the PAC facility admission sample.
Q_<qm-name>	NUM	8	SAS Label: QM SCORE,<QM-NAME> Description: Complete-data QM rate. Percent of residents triggering the QM, after QM exclusions **AND** exclusion of cases with any missing covariate scores (if applicable); adjusted if applicable.